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Learning Organizations: Their Importance to Systems
Acquisition in DoD

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Panel 4. Improving Acquisition Workforce Quality and Effectiveness

Wednesday, May 14, 2014	
11:15 a.m. – 12:45 p.m.	<p>Chair: J. David Patterson, Director, North American JDA Partnerships, N12 Technologies</p> <p><i>Measuring Acquisition Workforce Quality Through Dynamic Knowledge and Performance: An Exploratory Investigation to Interrelate Acquisition Knowledge With Process Maturity</i> Mark Nissen, Naval Postgraduate School Rene Rendon, Naval Postgraduate School</p> <p><i>Learning Organizations: Their Importance to Systems Acquisition in DoD</i> Robert Tremaine, Defense Acquisition University Donna Seligman, Defense Acquisition University</p> <p><i>A Comparison of Government and Industry Program Manager Competencies</i> Roy Wood, Defense Acquisition University</p>



Learning Organizations: Their Importance to Systems Acquisition in DoD

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Abstract

The success of the defense acquisition workforce depends on experience, and since the majority of what it learns is on-the-job, a wide array of learning techniques dominates. Together, they behave as a learning ecosystem full of opportunities—and even learning hazards. While all these learning techniques jockey for the fastest learning lane amid variable workplace demands, proven learning methodologies help form the foundation of an organization's learning faith. Many organizations already promote learning in the workplace. But, what have Department of Defense acquisition organizations that operate as Learning Organizations (LOs) implemented to achieve performance gains? The authors of this research sought out such organizations to better understand the key ingredients that make them authentically high-performing and appropriately armed LOs to achieve the appropriate learning transfer.

Introduction

Every day, organizations face routine learning challenges. To tackle them, U.S. organizations spent approximately \$156.2 billion on employee learning in 2011 (Miller, 2012). DoD acquisition organizations that design, develop, produce, and maintain essential capabilities required to meet U.S. security needs have instituted their own learning solutions. However, few have formally adopted all the learning practices that address their unique learning challenges or have reenergized previous learning practices that have lost their charge. With the continued focus on finding greater efficiencies in the workplace coupled with any companion reductions in weapon systems costs, the concept of LOs deserves a closer look for every DoD acquisition organization looking to boost its learning mileage. Why is this important? The DoD's human capital workforce—acquisition practitioners from all acquisition functional areas—depends heavily on learning gains, especially if it expects to fulfill warfighter capability needs and meet Better Buying Power objectives promulgated by the Office of the Secretary of Defense, which seek greater current as well as future efficiencies over the long haul in weapon systems procurement for today's warfighters.

LOs have actually been around for some time. Lately, their relevancy has come into question. Some argue they are too subjective, elusive, ambiguous, and lack feedback loops (Grieves, 2010). Many authors have written about them or alluded to them in some fashion. In his book *The Fifth Discipline: The Art and Practice of The Learning Organization*, Peter Senge (1990) first defined LOs as



organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together. (p. 3)

He further characterized LOs in the context of (a) Systems Thinking, (b) Personal Mastery, (c) Mental Models, (d) Shared Visions, and (e) Team Learning.

Learning vs. Training

Misunderstanding the distinction between formal learning and training can derail the promise of more workplace learning—a necessity for LOs. The difference is often obscured because learning and training are so tightly intermingled. A “training experience” is seldom on the same plane as a “learning experience,” albeit some training experiences, like simulations, closely resemble learning experiences. More often than not, training occurs outside the workplace or work group. Seen as preparatory, training fills a crucial “know-how” gap where workers practice what they learn without fear of failure. After the “training experience” is over, workers head back to their workplaces and apply what they learned. But, external training cannot address every aspect (Good & Brophy, 1990). In the workplace, training takes the form of on-the-job training (OJT), or more precisely, on-the-job learning (OJL), and becomes much more informal, transparent, ubiquitous, and continuous. Mandatory learning comes back as formal training (in the form of an intervention) after something goes wrong like reduced profits, higher costs, design flaws, manufacturing defects, safety violations, or even major accidents resulting in loss of life. Learning in this context is not a continuous activity either. It is more reactive and short-lived. Understanding how fully embodied LOs leverage OJL and other key learning components might help reverse several other misconceptions about learning and raise them to more reputable levels.

Reforming Our Thinking About Learning

Despite the program type or life-cycle phase, learning in DoD acquisition organizations is compulsory. A vast array of learning methods, practices, and techniques prevails. In various ways, each contributes to workplace learning. Some are more effective than others, especially those that actually mimic the job. Far from a perfect science, the literature (Kerka, 1995) suggests that effective LOs

- provide continuous learning opportunities,
- use learning to reach their goals,
- link individual performance with organizational performance,
- foster inquiry and dialogue, making it safe for people to share openly and take risks,
- embrace creative tension as a source of energy and renewal, and
- maintain continuous awareness and interaction with their environment.

Even though these active learning features help organizations achieve their objectives, most organizations have only a modest understanding of how these features generate the success upon which their organizations depend. Consequently, they spend less time thinking about learning since future benefits are not readily apparent. If DoD organizations recognized the significance of powerful workplace learning architectures, would they take them more seriously?



The authors selected an unconventional framework to characterize LOs under four categories: Learning Pathways (LP), Learning Engines (LE), Learning Lubricants (LL), and Learning Additives (LA), but used a traditional mathematical formula to express them.

Learning Organizations =

$$\sum_{i=1}^n ((L_{Pi}(L_{Ai}) + L_{Ei}(L_{Ai}) + L_{Li}(L_{Ai}))) \quad (1)$$

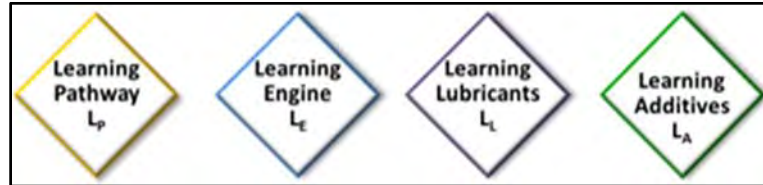


Figure 1. Learning Organization Categories

Methodology

This research used a combination of interviews and surveys to assess learning practices operating across 18 different DoD acquisition program offices (Figure 2). They constitute a rich blend of functional professionals who apply expertise every day in programs spring-loaded with risks and uncertainty. As a distinctive group, the researchers responded that the current leaders in the DoD's acquisition program offices could readily characterize the learning practices making a difference for them and the organizations they lead. Accordingly, diverse acquisition leaders from Acquisition Category (ACAT) I and II program management offices, representing all military departments, were interviewed. These DoD acquisition leaders would offer informative "top-down" views. A 63-question survey was administered to them and their acquisition foot soldiers, who would offer equally informative views from the ground "looking up." What learning attributes made a difference, and which ones required more learning voltage?

18 PROGRAM OFFICES AND DIRECTORATES	
 Ballistic Missile Defense System (BMDS)	 RQ-4A/B UAS GLOBAL HAWK
 Navy Virginia (SSN 774) Class Attack Submarine	 WGS (MILSATCOM, AEHF, FAB-T, GBS)
 C-130/C130J Aircraft Modernization Program	 National Polar-Orbiting Operational Environmental Satellite System (NPOESS)
 B-2 Bomber and SATCOM and Computer Increment I	 Space Based Infrared System (SBIRS) – High Satellite
 F-35 Lightning II	 Evolved Expendable Launch Vehicle (EELV)
 C130J - Super Hercules	 Global Positioning Systems (GPS) Directorate - GPS IIIA and NAVSTAR GPS
 MQ-9 UAS REAPER	 Apache Block IIIA (AB3A) Remanufacture
 KC-46 Tanker	 Guided Multiple Launch Rocket System (GMLRS) and GMLRS Alternate Warhead
 F-22 Raptor	 PEO Command, Control, Communications, Computers and Intelligence (C41)

Figure 2. Listing of Program Offices Interviewed and Surveyed

Findings

The researchers invited 4,158 acquisition program office personnel to take part in this survey. Of that group, 2,125 personnel responded. Their aggregate views exposed the prevalence and dominance of many learning components. Their views also confirmed the active implementation of 16 preselected LO components (independent variables) and the resulting workplace learning dividends (dependent variables) expressed as positive or negative gaps.

Figure 3 represents the combined percentages for the top two boxes for the 18 organizations on a Likert scale (1–7). Some of the LO component percentages were strikingly low. The subsequent discussion addresses each component one-by-one by top box.

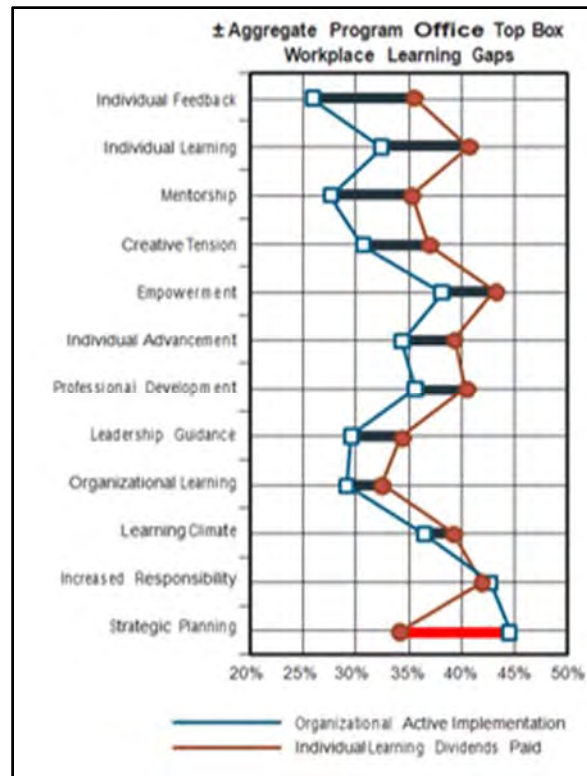


Figure 3. Program Office Gaps

Figure 4 represents the construct used to categorize the 16 Learning Organizational (LO) elements. In the following pages, the authors show how each of the 18 individual organization's workforces responded when asked about the extent of each element implemented and the level of learning dividends that prevailed from each.

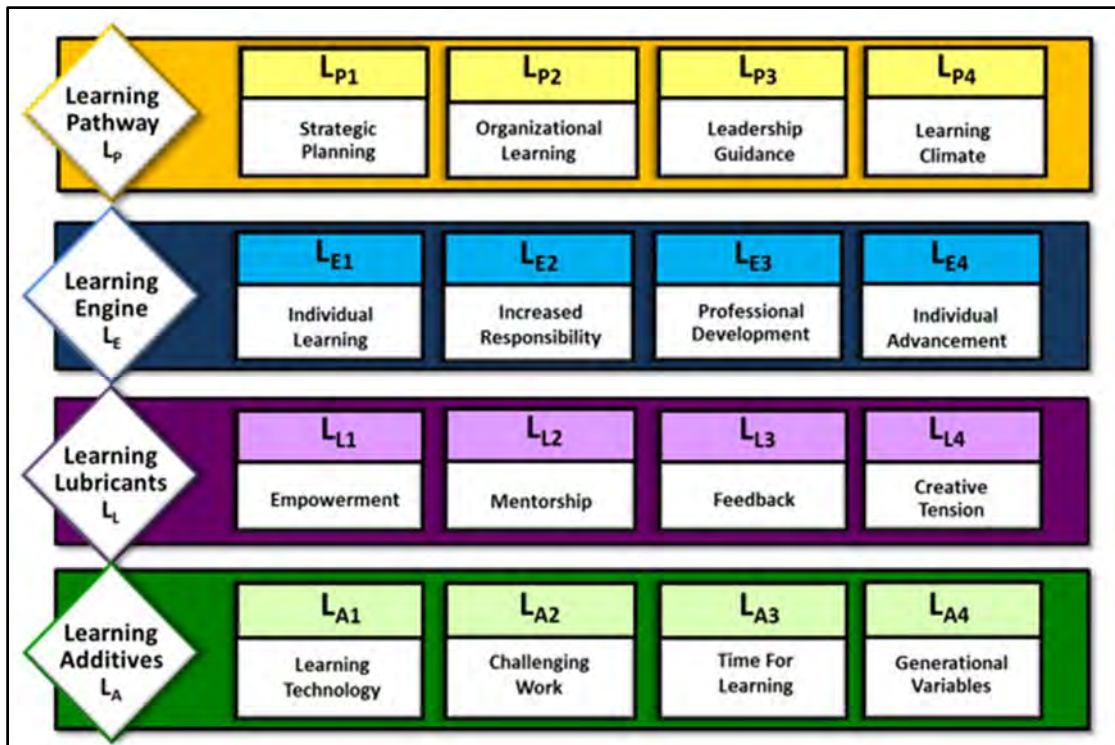


Figure 4. Learning Organization Elements

Learning Pathway (L_{pi})

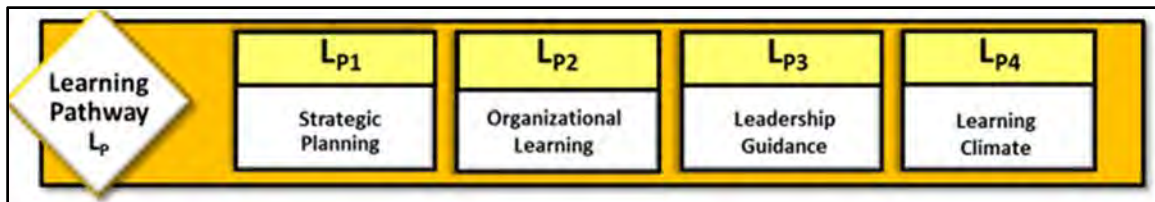


Figure 5. Learning Pathway

At any given time, the direction of workplace learning matters (Marquardt & Reynolds, 1994, p. 21). To give a clear site picture of an organization's learning heading, LOs underscore the significance of Strategic Planning, Organizational Learning, Leadership Guidance, and Learning Climate.

Strategic Planning (L_{PI})

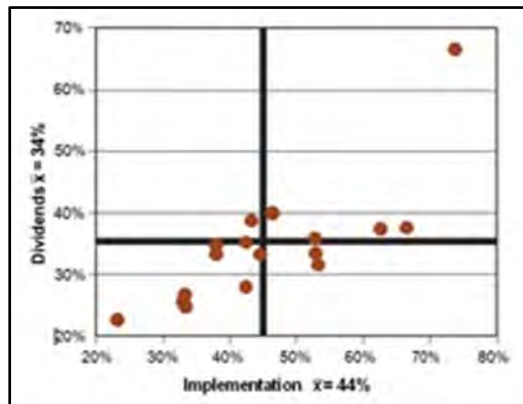


Figure 6. Strategic Planning Results

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 44% for their top box on organizational implementation while only 34% in learning dividends. This first learning pathway component emphasizes the connection to an organization's mission and goals. Since workplace learning has been found to be "the most effective when it's aligned to corporate objectives and strategies" (The Conference Board of Canada, 2009), the impacts of learning outcomes become more visible when they are woven into an organization's strategic plan. In this study, many leaders conducted strategic planning initiatives. In their current state, the data indicated conspicuously reduced learning returns for the respondents. To increase learning dividends, one organization made its strategic plan a "trusted system" by instituting a corporate management board that met monthly to verify worker contributions. The organization inculcated the strategic plan into its learning culture by tightening the connection between individual performance and mission accomplishment. In most organizations, however, strategic plans seemed to satisfy more of a literary requirement than a means to a learning end. Several leaders considered them to be overly burdensome and costly. They decided against a formally written strategic plan and substituted it with "all calls" or monthly/quarterly meetings where they discussed progress against their overall goals. Another organization equated its Integrated Management Plan to a strategic plan since it anticipated little return by investing in another plan. Over 30 years ago, Shell Oil learned the strong relationship among strategic planning, learning, organizations, and corporate success (Marquardt, 2011). DoD acquisition organizations have not appeared to find the same linkage, or at least exercised it enough to show any tangible value to sustain it as a universal practice. The workforce was more confounded by strategic plans. The respondents who rated this component as operating below average responded that their plans were confusing, poorly communicated, disconnected, not tracked, and/or had little to no impact on learning.

Organizational Learning (L_{P2})

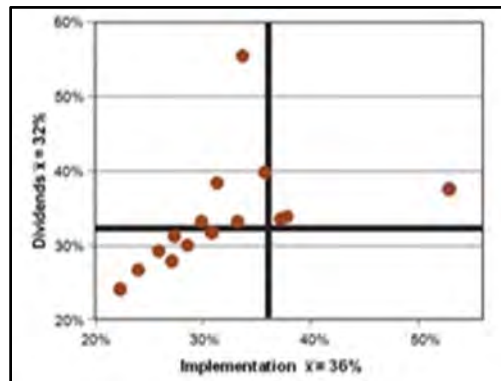


Figure 7. Organizational Learning Results

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 36% for their top box on organizational implementation and 32% in learning dividends. Organizational learning forms the centerpiece for LOs and incorporates the concept of adaptive learning, where workers respond to changes in the environment by detecting errors and correcting the errors through modifying strategies, assumptions, or norms (Choo, 2006). To strengthen their learning bridges, many leaders instituted rotational assignments, OJT checklists, and hosted recurring “brown bag” discussions. Others established microuniversities inside their workplaces that teach unique processes and product line technologies. To be effective though, this second pathway component requires the presence of three critical factors: meaning, management, and measurement (Garvin, 1993).

The respondents who rated this component as operating below average reported that they found noticeable deficits in all three. Their organizational learning goals had little connection to their work, were overcome by program pace, or lacked meaningful metrics.

Leadership Guidance (L_{P3})

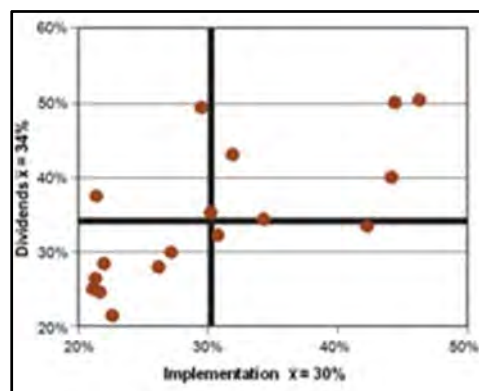


Figure 8. Leadership Guidance Results

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 30% for their top box on organizational implementation and 34% in learning dividends. Aside from serving as a compass, leaders are expected to remove learning obstacles so their organizations can make more learning inroads. They also have an incumbent responsibility to introduce workplace “learning initiatives ...

legitimize managers ... and be deeply involved in the learning process” (Miller, 2003). This third learning pathway component also requires leaders to serve as the model for continuous learning while encouraging their employees to do the same. Often, the opposite is true (Marquardt & Reynolds, 1994). Actions speak louder than words. One leader who reported higher gains encouraged his workforce to seize learning as their number one priority and held supervisors accountable for making sure their subordinates gave it sufficient attention. Several leaders reported that their workforce did not challenge the status quo nearly enough. Others expressed the view that their daily demands were compounded by excessive administrative burden, leaving them with less time to address all their learning curves. The respondents who rated this component as operating below average said they needed much more definitive direction or more frequent communication regarding learning expectations.

Learning Climate (LP4)

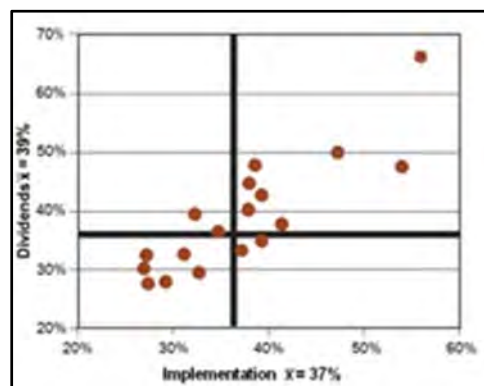


Figure 9. Learning Climate Results

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 37% for their top box on organizational implementation and 39% in learning dividends. This last pathway component speaks to the workplace safeguards in place to mitigate the learning turbulence that can emanate from leadership expectations, workplace processes, or workplace cultures. Effective LOs ground these key elements by instituting resilient and sustainable learning practices that encourage and condition their employees to value the need to continually learn new skills and “avoid the erosion of their knowledge stocks” (Cooke & Meyer, 2007). One leader offered that he actively pushes his workforce to think critically and challenge the status quo. He further reported that his organization could never meet its technical challenges without it. Another leader reminded his workforce to actively think differently. Respondents who worked in organizations where this component rated below average reported their learning climates were too weak to face the pressures of risk. People took shelter to avoid it since their leadership did not endorse it.

Learning Engine (L_{Ei})



Figure 10. Learning Engine

Learning engines are the source of an organization's learning muscle. They depend heavily on individual learning, increased responsibility, professional development, and individual advancement (Figures 10–14). Properly sized learning engines give organizations the ability to tackle uncertain and variable learning terrain with lesser strain. Learning engines also have to operate at peak levels to achieve enough momentum to safely negotiate steep learning grades.

Individual Learning (L_{E1})

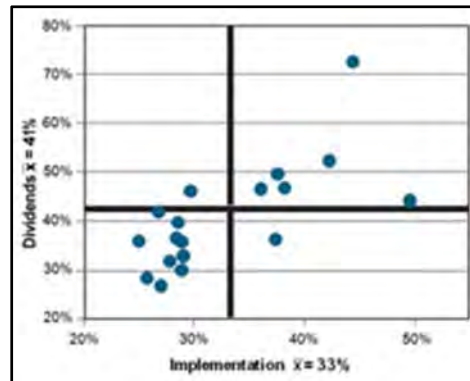


Figure 11. Individual Learning

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 33% for their top box on organizational implementation and 41% in learning dividends. A vehicle's towing capacity depends on the horsepower and torque its engine produces. In a similar way, individual learning represents the source of an organization's intellectual muscle. Like any muscle, it needs to be exercised. Individuals must value and keep their new learning skills fit enough to promote "psychological states of competence" (Cooke & Meyer, 2007). This first learning engine component is closely linked with LP2 in an explicit and structured way (Marquardt & Reynolds, 1994). Individual learning gives organizations immediate traction by serving as a "core resource and mechanism" that moves organizations toward their goals (Srihawong, Srisa-Ard, & Chiwpimai, 2012). It also helps organizations respond to strong learning counterforces like competition from other workplace demands and daily programmatic risks that subject individuals to continuous learning pressure. To help strengthen individual learning development, one leader had his junior personnel teach others what they had learned. He ensured they had learning in the correct gear so they could effectively react to workplace eventualities while operating at peak proficiency levels. The respondents who reported below average dividends questioned the amount of time set aside for individual learning, or the link between learning and performance improvements was missing.

Increased Responsibility (L_{E2})

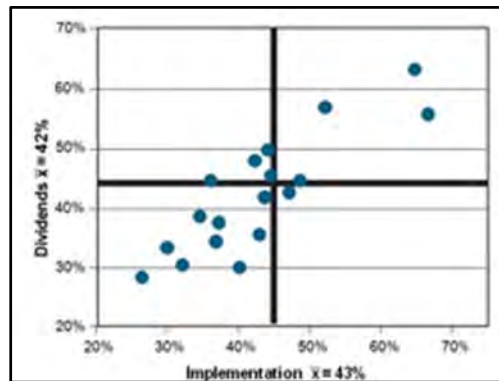


Figure 12. Increased Responsibility

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 43% for their top box on organizational implementation and 42% in learning dividends. LOs are known to evenly distribute responsibility across their enterprises in the same fashion that air shocks and assisted breaking systems safely handle heavier loads “on demand.” Although occasionally tenuous, this second learning engine component also keeps employees intellectually challenged enough so they do not seek employment elsewhere (Emery, 2010). One leader reminded his workforce that “Innovation doesn’t live in the routine, and takes persistence and the responsibility to challenge themselves instead.” The opposing forces (e.g., lack of motivation and shortage of available time) can inhibit the pursuit for some workers to seek or accept increasingly more responsibility. However, the distribution of responsibility deserves frequent inspection since it behaves as a catalyst for forces leading to change management inside LOs (Beaver & Hutchings, 2004). The respondents who reported lower than average results cited the preponderance of responsibility placed on select positions as not always evenly distributed, minimized, or even overlooked.

Professional Development (L_{E3})

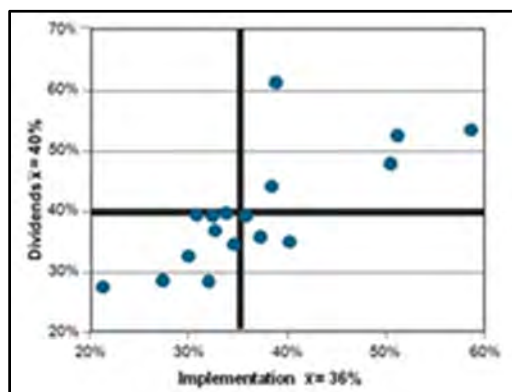


Figure 13. Professional Development

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 36% for their top box on organizational implementation and 40% in learning dividends. Professional development helps learning engines burn leaner by improving learners’ “time to competence” (Senge, 1990). Additional knowledge found in

collaborative opportunities like professional conferences, communities of practice, or cooperative deep intellectual dives on functionally specific topics favorably boost learning effects. Internal development programs make strong impacts since they are more workplace-specific. One leader crafted an internal Career Development Guide that created a comprehensive glide path for a wide range of experiential and collaborative learning opportunities inside his learning house. Another leader modified his organization's reporting structure to allow more junior personnel to assume roles that increased their developmental momentum. The respondents who experienced below average in this third learning engine component reported that professional development was either poorly promoted, unorganized, ad-hoc or inactive.

Individual Advancement (L_{E4})

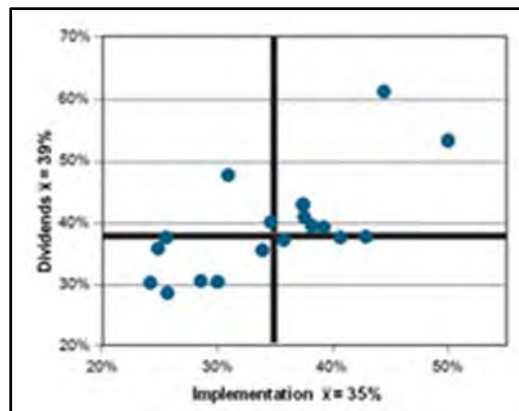


Figure 14. Individual Advancement

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 35% for their top box on organizational implementation and 39% in learning dividends. LOs help their workforce seek advancement by applying more force to their learning opportunity accelerator. One leader whose organization reported the highest workforce learning dividends in this last learning engine component instituted (a) functionally focused internal meetings to show what it takes for personnel to advance; (b) a program where competitive individuals could diversify into other functional areas; and (c) an accession model that illustrated the experience required for progression. Interestingly enough, advancement does not always imply more supervision which could be holding back some from seeking it (Kosteas, 2011). Respondents who reported below average advancement opportunities felt more promising prospects existed outside their own workplaces or lacked the time to pursue the required qualifications to compete for internal advancement.

Learning Lubricants (L_{Li})



Figure 15. Learning Lubricants

Purposeful, timely, and active learning in the workplace is an important component for organizational success. But, under this third category, friction can easily interfere with expected gains if four components—empowerment, mentorship, individual feedback, and creative tension—are not at their ideal viscous states. The variable and unrelenting learning pace found inside acquisition organizations requires all four components to keep workplace learning moving freely (Figures 15–19).

Empowerment (L_{L1})

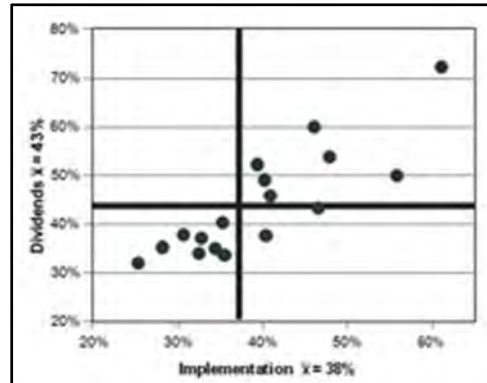


Figure 16. Empowerment

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 38% for their top box on organizational implementation and 43% in learning dividends. When it comes to learning, empowerment might be the most highly underestimated component of them all. In this study, it signaled the highest individual learning dividends paid. Companies like General Electric actively push empowerment by applying a risk quotient where they “measure employee performance based on their capacity to take risk in championing ideas, learn from the experience, and drive improvement” (Peters, 2012). Leaders who reported high learning dividends from empowerment widely delegated “the authority” across their organizations. Respondents in organizations that operated below average reported that empowerment was visibly absent, not fostered, or underwhelming at their workplaces.

Mentorship (L_{L2})

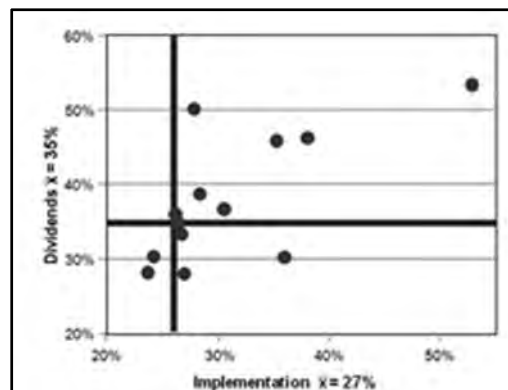


Figure 17. Mentorship

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 27% for their top box on organizational implementation and 35% in learning dividends. LOs seize mentorship since it helps employees avoid costly mistakes. LOs also recognize that mentors must be willing to bear the responsibility for their employees' growth and development in their dual role as a "performance confronter" and "career counselor" (Gilley & Maycunich, 2000, p. 32). One leader noted that making mentorship too formal would lead to its death. He selected certain personnel to fill positions that demanded mentorship. The respondents who reported below average dividends for this second lubricant component saw little evidence of mentorship even though they felt it could pay huge returns if it found its way into their development.

Individual Feedback (L_{L3})

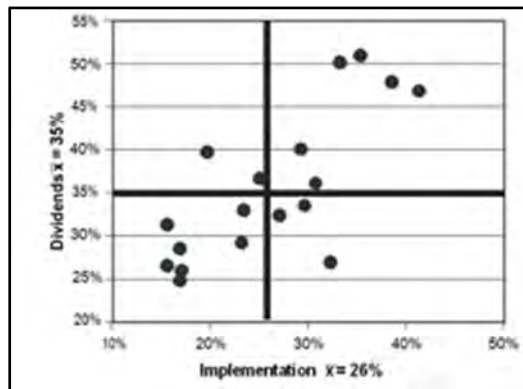


Figure 18. Individual Feedback

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 26% for their top box on organizational implementation and 35% in learning dividends. LOs recognize the importance of feedback—the only facet of knowledge and skill development that is significantly associated with individual impact (Cooke & Meyer, 2007). In its raw form, this third learning lubricant operates like a learning performance regulator. Too little feedback can slow the learning flow. Too much feedback can lead to excessive focus where learners are always altering their performance, leading to inconsistent and variable performance-impaired learning (Lee & Carnahan, 1990). Premature feedback can have an adverse learning effect much like an engine backfires when an explosion occurs in the air intake or exhaust system rather than inside the combustion chamber. Negative feedback can be toxic and contaminate learning climates. In its ideal form, feedback needs to be timely, respectful, accurate, carefully communicated, and void of negative undertones. Leadership plays a significant role in feedback by ensuring it remains constructive and freely flows, but sticky enough to reduce workplace propaganda and eliminate counterproductive interference. Most leaders reported that feedback directly affects their ability to accomplish workplace challenges and made it a priority across their organizations. The respondents who experienced below average learning dividends noted either little or less constructive feedback, no connection to learning plans, or a failure to close the feedback loop.

Creative Tension (L_{L4})

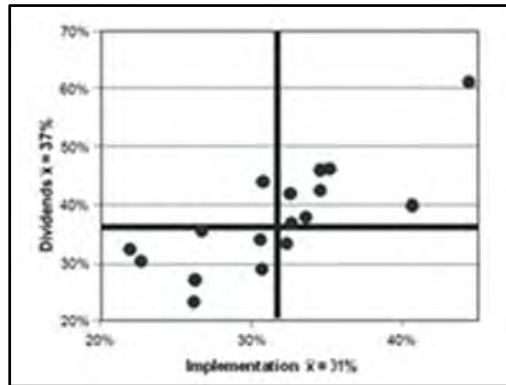


Figure 19. Creative Tension

Note. Each dot represents aggregate top box responses from the 18 program offices.

Organizations averaged 31% for their top box on organizational implementation and 37% in learning dividends. LOs encourage their personnel to seek new learning methods and embrace creative tension as a positive attribute because it generates resolution (Senge, 1990). One leader stitched healthy tension into his own learning formula and encouraged his workforce to voice their disagreement at every meeting if they felt strongly about an issue. He could not think of a better way for them to shoulder more “ownership” at the workplace. Some respondents misunderstood the concept of this last learning lubricant, but the respondents who noted lower than average dividends reported little evidence of tension in their workplace, especially the creative type, and it resulted in missed learning opportunities.

Learning Additives (L_{Ai})



Figure 20. Learning Additives

LOs recognize the need for certain learning additives under this last category such as new technologies, challenging work, time for learning, and generational learning solutions (Figures 20–24). They give workplace learning added momentum and can raise learning outcomes to even more favorable levels. This last category evaluated the effectiveness of each.

Learning Technology (L_{A1})



Figure 21. Learning Technology

Organizations averaged 46% for their top box that technology was effectively used. Technologies are becoming more and more predominant in the workplace. They can help organizations save money, save time, increase productivity, manage knowledge, and improve learning. In the last several years, social media has skyrocketed. In an earlier survey that polled 125 learning and training leaders, 82% used social media to advance their own professional skills and resources while another 81% believed social media offers valuable learning opportunities (The CARA Group, 2010). In another study, Twitter® and YouTube® ranked number one and two, respectively, as tools for workplace learning among 545 learning professionals worldwide (Hart, 2011). In this LO study, e-mail was seen as the most effective learning technology, although it also created issues (Figure 21). Several program managers instituted more restrictive e-mail discipline to reduce the e-mail barrage by instituting no more “reply to all” and no more e-mails to their leadership team without “action recommendations.” Another reminded his personnel to “send less so they would get less.” One in particular issued an e-mail “stand-down” day and directed his personnel to either communicate by phone or talk face-to-face. Afterwards, he noticed a shift in cooperative learning. People started to talk again and shared knowledge more openly. The low rating of social media in acquisition organizations could most likely be attributed to limited access to certain sites. Generational preferences may also play a role since far fewer “millennials” are yet working in acquisition organizations. Nonetheless, learning technologies serve as a gateway to both information and knowledge sharing. However, some organizations in this study had limited means to leverage more effective solutions or the knowledge to understand this first additive’s association to learning. Many key learning technology decisions were left to the information technology specialists.

Challenging Work (L_{A2})

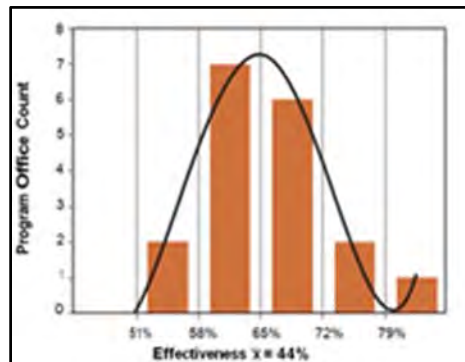


Figure 22. Challenging Work

Organizations averaged 65% top box for presenting challenging work. Adding challenging work into the learning mix helps individuals achieve greater self-efficiency (Huys, De Rick, & Vandenbrande, 2005). One leader said that until he got his people exposed to this second learning additive, he risked losing them. Another leader encouraged his personnel to read the book *Strengths Finder 2.0* by Tom Rath, and then had them list five strengths to share with others. He reported that the organization as a whole could achieve more challenging work if it understood the sum of its parts.

Time for Learning (L_{A3})

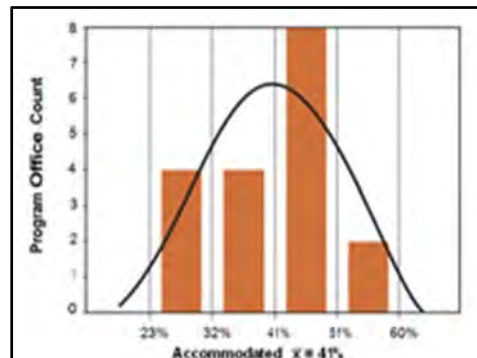


Figure 23. Time for Learning

Organizations averaged 41% top box for giving enough time to master skill. For workplace learning to be meaningful, LOs allow adequate time for learning to “warm up” and give learners time to reflect, practice, network, and seek any necessary training (Vaughan, 2008). Many leaders blended “just-in-time” learning into their learning mixtures whenever new processes or initiatives surfaced. Others reinforced the importance of taking time to build expertise. One leader reminded his personnel not to leave the organization without becoming proficient in their fields. Another leader created time for thinking experiments inside his organization. One of his teams decided to run a product line contest out of graham crackers, peanut butter and marshmallows, and toothpicks. To them, the competition ended up reinforcing the importance of product resiliency and a resilient workforce.

Generational Learning Accommodations (L_{A4})

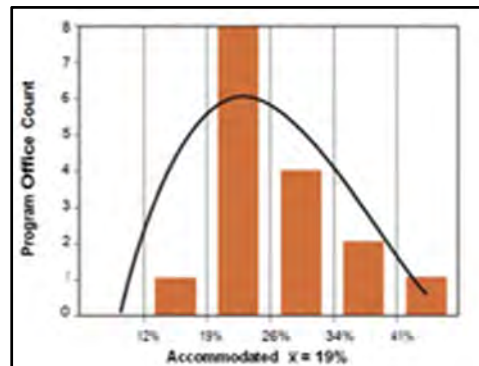


Figure 24. Generational Learning

Organizations averaged 26% top box for accommodating differences in generational learning. Looming changes in workforce demographics have placed even more pressure on an organization's learning ecosystem. However, while generations have their own learning preferences, how they actually learn is not significant enough to "warrant different instructional designs or learning technologies" (Reeves, 2006). None of the leaders instituted any generational-unique learning techniques although many leaders reported that they gave more attention to the development of their junior workforce. One leader ensured his junior personnel understood that performance would evolve them as "hot runners." Another leader specified that teaching the next generation at his workplace was the most important thing he could do.

Emergence of the DoD's Acquisition Workforce Qualification Initiative (AWQi)

On November 13, 2012, the Honorable Frank Kendall, under secretary of defense for acquisition, technology, and logistics (USD[AT&L]) published the Better Buying Power 2.0 (BBP 2.0) memorandum (see Figure 25), part of his strategy to promote greater efficiency and productivity in defense acquisition, one of 36 initiatives focused on the professional qualification of the acquisition workforce. According to Kendall, "current qualification standards do not emphasize the hands-on experience necessary to become truly proficient enough to take on the responsibilities associated with being a key acquisition leader" (Kendall, 2012, p. 1). Since the workplace is where we learn 70% or more of what it takes to become skilled acquisition professionals, DAU is supporting a new workforce qualification program under the auspices of BBP 2.0 to help develop a competency-based qualification program (called the Acquisition Workforce Qualification Initiative [AWQi]) which identifies, assesses and documents an individual's demonstrated experience in the workplace. Earlier, in his testimony to Congress before the House Armed Services Committee United States House of Representatives, Keith Charles (director, Human Capital Initiatives Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics) used the term "Certification-to-Qualification" initiative and said it "will provide a critical fourth dimension to certification—on-the-job demonstration of mastery of functional competencies (Human Capital Management, 2011).

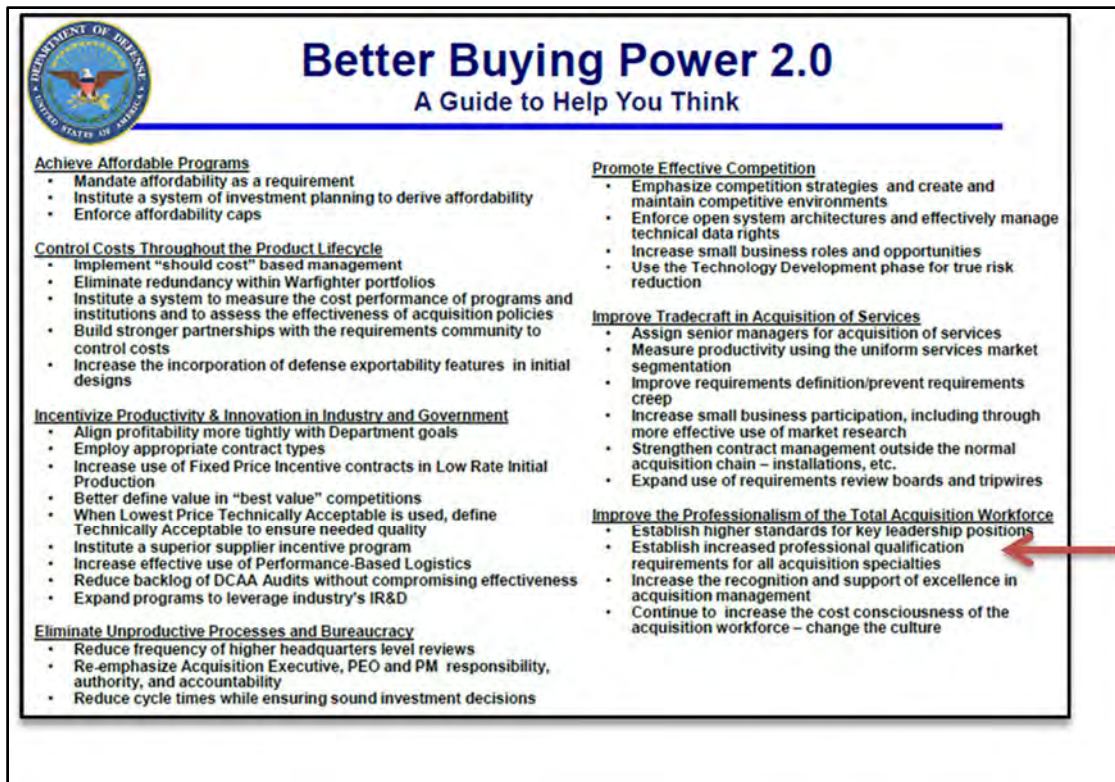


Figure 25. Better Buying Power 2.0
(Kendall, 2012, p. 2)

The authors believe that given the appropriate workplace learning shaping requirements to enable a concept like AWQi while still formative, LOs are likely to become the key learning architecture to fulfill what AWQi embodies.

With an increasing demand for qualified acquisition professionals outstripping the supply, a concept like AWQi nicely dovetails with the Defense Acquisition Workforce Improvement Act (DAWIA) career development track. Passed by Congress in 1990, DAWIA changed the way the acquisition workforce fulfilled its certification needs, but it didn't go far enough to fulfill specific workplace needs, according to many critics. Like most professions, acquisition professionals learn most of what they need on the job, but it has become increasingly clear that the acquisition workforce is absent of a qualification construct. To tighten the connection between certification and workplace needs, AWQi could bridge the gap and provide a more disciplined process to verify the attainment of essential workplace competencies. As the defense acquisition community transitions into the next millennium, AWQi could also help offset the shortage of certain professional experiences expected in the coming years.

As shown in Figure 26, a section of an April 24, 2013 memorandum, the USD(AT&L) displays the established "General Guidance" and "Specific Actions" for "increased professional qualification requirements for all acquisition specialties" (Kendall, 2013, p. 25).

- Acquisition functional leads and senior leaders were charged with defining and finalizing the competencies.
- DAU was charged with translating workplace competencies into on-the-job tools and processes.



- Components were charged with executing and implementing the qualification tracking and planning in the workplace—key features the authors believe are already embodied in strong learning organizations.

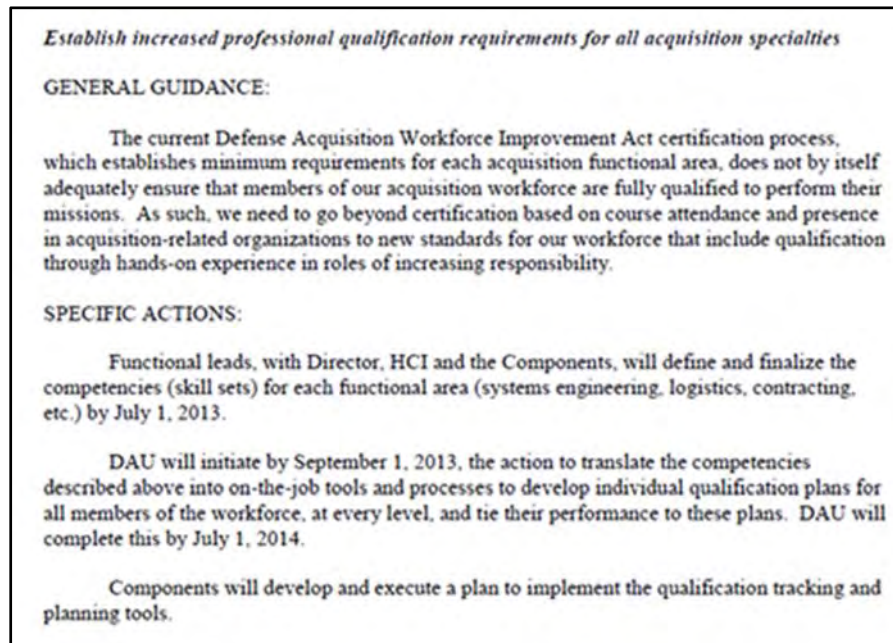


Figure 26. Implementation Directive for Better Buying Power Initiatives
(Kendall, 2013, p. 25)

How Will AWQi Be Accomplished?

Figure 27 illustrates how AWQi intends to turn competencies into the derivative qualification products, tasks, and amplifying. To effectively manage the magnitude of the effort, a wide variety of DAU subject matter experts (depending on their experiences and functional background) have been selected to map the products and tasks to the competencies provided by the Functional Integrated Product Teams (FIPITs). DAU is also looking into a single integrated application that will host the AWQi standards as well as capture individual qualification records for the workforce members who have achieved the required proficiencies. The components will be expected to implement a program to verify individual qualifications. The organizational deployment strategies will vary but they should all have a common goal—the ability to leverage their organization’s on-the-job learning structure to implement, track, and verify an individual workforce member’s skill set—generally afforded by strong learning organizations in the authors’ view.

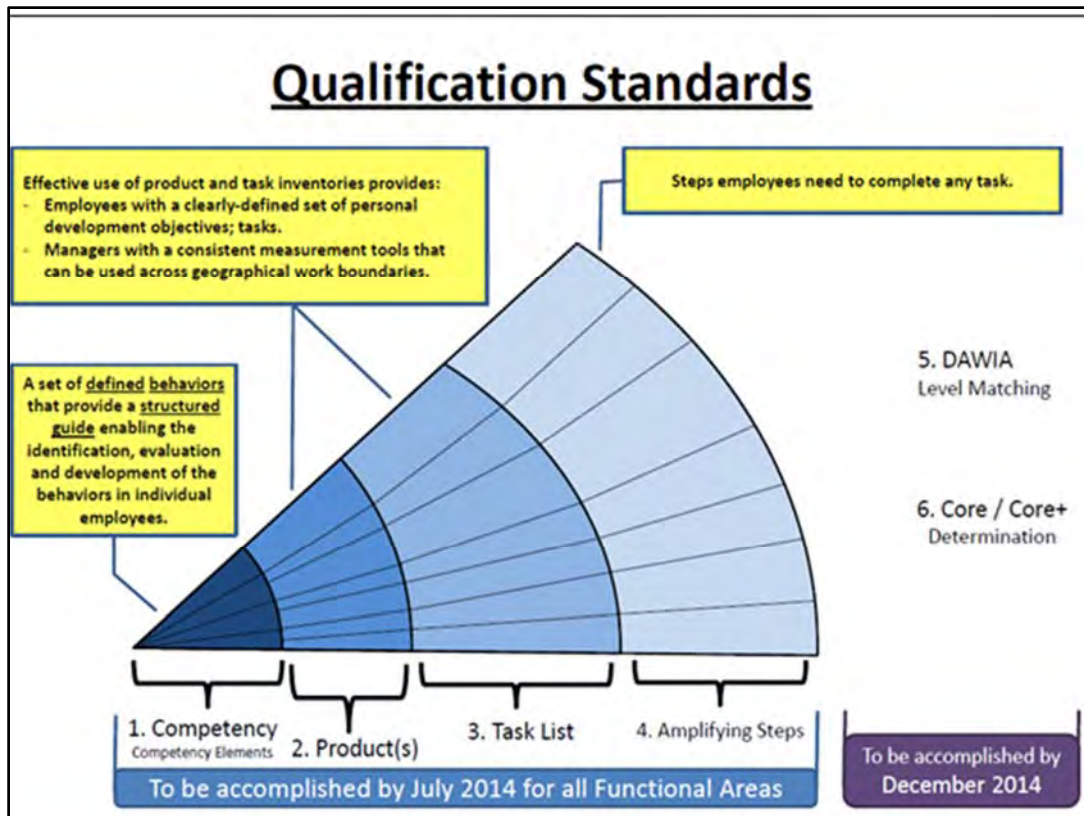


Figure 27. DAU AWQi Standards Development Construct
(Smith, 2013)

Alignment Between LO and AWQi

Figure 28 displays the transference of the LO Elements that would occur with the advent of AWQi. The authors believe the complexity of implementing a qualification program that covers a wide range of functional areas will be much less problematic under the roof of high performing learning organizations. With their learning attributes in full gear, Learning Organizations can clear the road ahead for the transition to a robust concept like AWQi. Aside from serving as enduring learning architectures, fully charged LOs have already done the same for many organizations outside the DoD.

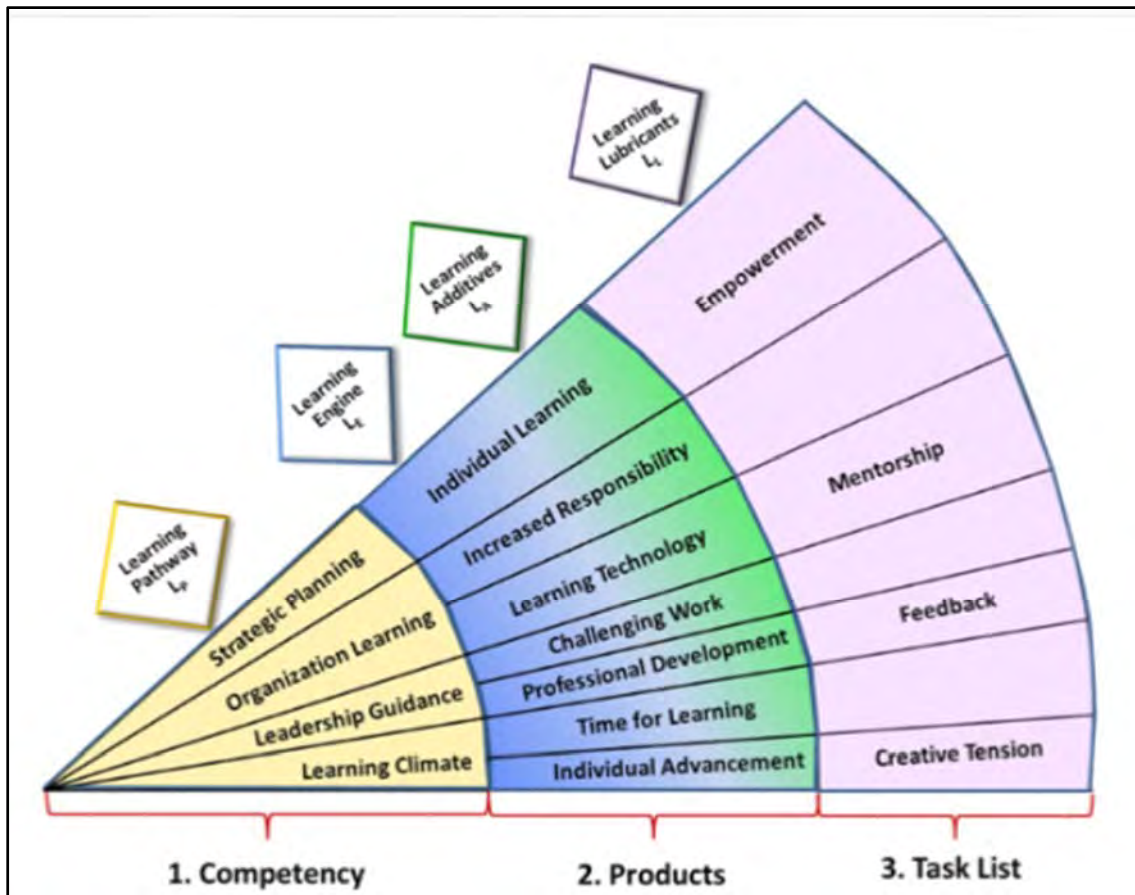


Figure 28. Transference of Learning Organization Elements Under an AWQi Development Construct

A more comprehensive formula that could include AWQi would be expressed as follows:

$$\text{Learning Organizations} = \sum_{i=1}^n ((L_{Pi} + \text{Qual}_i) (L_{Ai})) + (L_{Ei} + \text{Qual}_i) (L_{Ai}) + (L_{Li} + \text{Qual}_i) (L_{Ai}) \quad (2)$$

Recommendations

With a conspicuous mix of entry to senior-level personnel who run the experience scale, the acquisition workforce demonstrates a wide range of “know how” that constantly fluctuates. While they relish what they learn on the job, few fully appreciate the magnitude of all the learning elements that affect their learning development. Even though the DoD organizations surveyed in this study confirmed the presence of all the LO architectural components, no single acquisition organization has fully energized them all. Based on extrapolation, more active implementation could result in a stronger learning footing and create more positive learning dividends for every individual and organization. Consequently, the authors recommend the following for those in a position to champion the learning charge:

Become your Organization's Chief Learning Officer

Take the time to understand all the key learning practices that should be prevalent and highly active in your organization. Assess their contribution to mission outcomes. Involve yourself in your organization's total learning equation. If you haven't yet done so,

- ***Energize your strategic plan.*** Communicate it and measure progress against it. Whatever the manifestation, it needs to be grounded, connected to both individual and organizational outcomes, flexible, well-communicated, and understood.
- ***Codify your organization's OJL program.*** It is where most workplace learning occurs, and organizational competence depends on it (Olmstead, 2002). Decide what needs to be formal and what does not.
- ***Recognize that learning and formal training are distinctively different.*** Remind your workforce that learning is more formal and incidental. Learning is a contact sport. Make time to reflect.
- ***Monitor your learning climates closely.*** Inspire and condition your workforce to value the need to continually learn new skills to avoid the erosion of its knowledge stocks. Promulgate the virtues of innovative thinking.
- ***Eliminate the seam between "time for doing" and "time for learning."*** The difference is too close to call. "Doing" is experiential learning.
- ***Distribute responsibility across your enterprise.*** It increases learning health and reduces personnel turnover.
- ***Create opportunities for professional development.*** It produces greater depths of expertise and strengthens an organization's learning core.
- ***Encourage advancement.*** It makes workers think more about their own skillsets and how they can make even greater impacts.
- ***Empower your people and give them a solid sense of responsibility.*** It increases their learning capacity and reinforces their confidence. Give your personnel permission to switch gears. Encourage them to take risks.
- ***Make mentorship a top priority and actively promote it.*** Mentors help build more sustainable careers for junior workers who are running low on experience.
- ***Provide more performance feedback.*** There is no stronger learning barometer.
- ***Embrace creative tension.*** Ask your work force where your organization needs to be (i.e., vision) versus the "as is." Explain that any gap between the two restricts the achievement of critical outcomes. Allow your workforce to challenge the status quo in a thoughtful and respectful way.
- ***Maintain learning agility.*** Whenever learning needs change, maintain agility (e.g., presence of interns, changes in mission, changes in personnel, etc.).
- ***Strategically manage your technology needs.*** Ground them to organizational goals. Don't let them short-circuit the ability to get work done (Allen, 2012).



Conclusions

People have always been an organization's secret weapon, and no cutting-edge system capability could have ever been built let alone conceived without it. Twenty-two years after their inception, LOs are still very relevant since learning is omnipresent in the workplace. It may be hard to visualize, but fully embodied LOs with a disciplined workforce qualification program intact can help DoD acquisition practitioners think more deliberately about effective learning solutions. Indeed, LOs can provide just enough escape velocity to leave less productive learning practices behind, including the patterns that could be undermining learning itself, and ultimately—over the long haul—help raise learning to more efficient levels.



References

- Allen, D. (2012, March 17). When office technology overwhelms, get organized. *The New York Times*. Retrieved from <http://www.nytimes.com/2012/03/18/business/when-office-technology-overwhelms-get-organized.html?pagewanted=all&r=0>
- Beaver, G., & Hutchings, K. (2004). The big business of strategic human resource management in small business. In J. Stewart and G. Beaver (Eds.), *HRD in Small Organizations: Research and Practice*. London: Routledge.
- Choo, C. W. (2006). *The knowing organization: How organizations use information to construct meaning, create knowledge, and make decisions* (1st ed.). New York: Oxford University Press.
- Cooke, W., & Meyer, D. (2007). *The effects of workplace climates on employee performance capacities: A knowledge-based perspective*. Retrieved from Massachusetts Institute of Technology website: <http://web.mit.edu/sis07/www/cooke.pdf>

- Emery, M. (2010). When the cure is the cause: The turnover and absenteeism problems. *The Innovation Journal: The Public Sector Innovation Journal*, 15(1), 2–16.
- Garvin, D. A. (1993, July–August). Building a learning organization. *Harvard Business Review*, 71(4), 78–91.
- Gilley, J. W., & Maycunich, A. (2000). *Beyond the learning organization: Creating a culture of continuous growth and development through state-of-the-art human resource practices*. Cambridge, MA: Perseus Books.
- Good, T. L., & Brophy, J. E. (1990). *Educational psychology: A realistic approach* (1st ed.). New York, NY: Holt, Rinehart, & Winston.
- Grieves, P. (2010). *Organizational change: Themes & issues*. New York, NY: Oxford University Press.
- Hart, J. (2011). Social media and its impact on workplace learning (Chap. 2). In *Social learning handbook*. Retrieved from Centre for Learning & Performance Technologies website: <http://c4lpt.co.uk/social-learning-handbook/social-media-and-its-impact-on-workplace-learning/>
- Human capital management: A high-risk area for the Department of Defense. Hearing before the Committee on Armed Services House of Representatives 112th Cong. 1st Sess.* (2011) (testimony of Keith Charles).
- Huys, R., De Rick, K., & Vandenbrande, T. (2005). *Enhancing learning opportunities at work*. Manuscript submitted for formal publication. Katholieke University Leuven, Netherlands. Retrieved from http://ec.europa.eu/education/policies/2010/studies/enhance05_en.pdf
- Kerka, S. (1995). *The learning organization: Myths and realities*. Manuscript submitted for formal publication. Retrieved from ERIC Clearinghouse Products website: <http://www.eric.ed.gov/PDFS/ED388802.pdf>
- Kendall, F. (2012). Better Buying Power 2.0: Continuing the pursuit for greater efficiency and productivity in defense spending [Memorandum]. Retrieved from [http://www.transcom.mil/about/org/tccs/USD\(ATL\)-Signed-Memo-to-Workforce-BBP-2_0-\(13-Nov-12\)-with-attachments.pdf](http://www.transcom.mil/about/org/tccs/USD(ATL)-Signed-Memo-to-Workforce-BBP-2_0-(13-Nov-12)-with-attachments.pdf)
- Kendall, F. (2013). Implementation directive for Better Buying Power 2.0—Achieving greater efficiency and productivity in defense spending [Memorandum]. Retrieved from [http://bbp.dau.mil/docs/USD\(AT&L\)%20BBP%202.0%20Implementation%20Directive%20\(24%20April%202013\).pdf](http://bbp.dau.mil/docs/USD(AT&L)%20BBP%202.0%20Implementation%20Directive%20(24%20April%202013).pdf)
- Kosteas, V. D. (2011). Job satisfaction and promotions. *Industrial Relations: A Journal of Economy and Society*, 50(1), 174–194.
- Lee, T., & Carnahan, H. (1990). Bandwidth knowledge of results and motor learning: More than just a relative frequency effect. *Quarterly Journal of Experimental Psychology*, 42A(4), 777–789.
- Marquardt, M. J. (2011). *Building the learning organization: Achieving strategic advantage through a commitment to learning* (3rd ed.). Boston, MA: Nicholas Brealey Publishing.
- Marquardt, M. J., & Reynolds, A. (1994). *The global learning organization: Gaining competitive advantage through continuous learning*. Burr Ridge, IL: Irwin Publishing.
- Miller, P. (2003). Workplace learning by action learning: A practical example. *Journal of Workplace Learning*, 15(1), 14–23.
- Miller, L. (2012). Organizations continue to invest in workplace learning. *ASTD State of the Industry Report*, 42, 43–48.



- Olmstead, J. A. (2002). *Creating the functionally competent organization: An open systems approach*. Westport, CT: Quorum Books.
- Peters, S. (2012, March 17). At general electric, a culture of risk. *The New York Times*. Retrieved from <http://www.nytimes.com/2012/03/18/business/how-three-companies-innovate.html>
- Rath, T. (2007). *StrengthsFinder 2.0*. New York, NY: Gallup Press.
- Reeves, T. (2006). *Do generational differences matter in instructional design?* Manuscript submitted for formal publication. Retrieved from University of Georgia website: <http://itforum.coe.uga.edu/Paper104/ReevesITForumJan08.pdf>
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Doubleday.
- Smith, B. (2013, October 18). Acquisition Community Connection (LOG FIPT Brief). Retrieved from https://acc.dau.mil/adl/en-US/682308/PresentationOtherFile/75020/5-LOG_FIPT_Brief_10_17_13v10bjs.pdf
- Srihawong, J., Srisa-Ard, B., & Chiwpimai, V. (2012). The development of the learning organization model for Sisaket Rajabhat University (DOI: ISSN 1450-2267). *European Journal of Social Sciences*, 27(2), 233–241.
- The CARA Group. (2010). *How informal learning is transforming the workplace: A pulse survey: Social media's impact on informal workplace learning*. Retrieved from http://www.caracorp.com/documents/CARA_SocialMediaImpact_PulseSurveyReport.pdf
- The Conference Board of Canada. (2009). *Workplace learning in small and medium-sized enterprises: Effective practices for improving productivity and competitiveness*. Retrieved from <http://www.ccl-cca.ca/pdfs/OtherReports/CBofC-WorkplaceLearning-SME-OverviewReport.pdf>
- Vaughan, K. (2008). *Workplace learning: A literature review*. Retrieved from <http://akoatearora.ac.nz/download/ng/file/group-189/n1575-workplace-learning-a-literature-review.pdf>

Authors Note

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